

P

ortsmouth

project press



S.R. 823



ON THE COVER

An aerial view of the S.R. 823-U.S. 23 interchange at Lucasville.

FALL 2017

Monitoring Controlled Blasting

When we first think of ground vibrations, we typically think of naturally occurring earthquakes. Not being able to control Mother Nature, scientists work to properly monitor the unpredictable ground movements using a seismograph with a numerical outcome called the Richter scale. This is measured by the intensity of the ground movement and how far the seismograph is from the location in comparison to readings from different seismographs in proximity.

Controlled blasting provides for a much safer environment, and the ground movements are measured in the same manner using a seismograph; however, it measures the ground vibrations in one location. When controlled blasting is used in a populated area, there are measures that are taken prior to blasting operations to ensure homeowners are protected. Such measures are conducted as pre-blast surveys.

A pre-blast survey provides a baseline record of a property and denotes any pre-existing conditions prior to blasting activities, and the pre-blast survey is used to protect the homeowners and the blasting companies. The record of which can be conducted as a written or video record or both.



Once blasting activities begin, seismographs are used as the monitoring mechanism. A seismograph will record ground and air vibrations. In monitoring a seismograph uses two sensors, a geophone and microphone. Measuring vertical, longitudinal, and transverse ground oscillations, the geophone is a device that converts ground movement, or velocity, into voltage, which is recorded by the seismograph. Deviations from the baseline as found using voltage creates the seismic response. The microphone then measures the air overpressure, which differentiates from the normal atmospheric pressure.

For the Southern Ohio Veterans Memorial Highway, there are two separate blasting subcontractors aiding in the high-velocity movement of more than 90 percent of the 20 million cubic yards of earth that is being moved in the construction of the highway. Pre-blast surveys for the project were conducted by a third-party entity and were offered to property owners that reside within 1,500 feet of the blasting areas.



At left are rigs drilling blasting holes for production blast in Segment 3B of the corridor.

Additional photos from the project can be viewed online at www.pgg823.com.

All about the numbers!



From start to finish, there are a lot of numbers involved in the construction of any project. Taking a look south across S.R. 335 along the mainline of S.R. 823, there are three bridges under construction. These will cross not only S.R. 335, but also the Little Scioto River, Slocum Road and the CSX Railroad. Below is a closer look at the numbers to build these bridges.

Bridge 4
Over CSX Railroad

Concrete: 2,643 cubic yards
Steel: 3,186,635 pounds

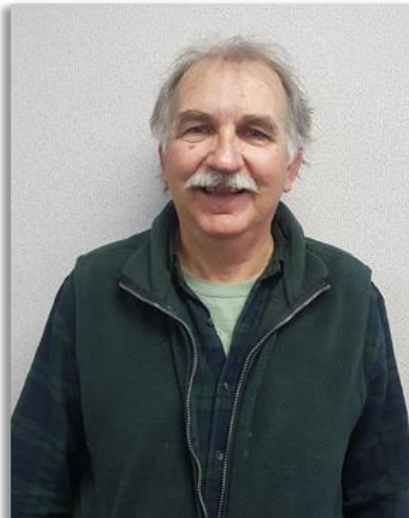
Bridge 5
Over Slocum Road

Concrete: 762 cubic yards
Steel: 626,988 pounds

Bridge 6
Over Little Scioto River & S.R. 335

Concrete: 6,278 cubic yards
Steel: 5,002,167 pounds

MVP3: HDR's Bob Blaschak



PGG congratulates Bob Blaschak – the Fall 2017 recipient of the MVP3 award for the hard work he contributes to the project.

Bob Blaschak is a field construction inspector with HDR, the Independent Quality Firm working on the project. Bob's job duties include ensuring the contractor is building the project in compliance and according to the plans and specifications. With the ability to navigate the variety of plans and specifications, Bob is an asset to the project.

Bob, who has a bachelor's degree in civil engineering from Ohio State University, has an extensive background in highway construction and the transportation industry. Prior to joining HDR and the SOVMH project, Bob spent 38 years working with the Ohio Department of Transportation - District 9 and predominately in its construction department as a transportation engineer.

Following his retirement from ODOT in 2016, though, Bob wanted to be a part of the biggest project in Ohio's history, and he said that his favorite part of the project are the bridges, an area in which he has a lot of experience. Bob also noted that while the technology has changed over the course of his career in highway construction, the people – and the work itself - principally stay the same.

Away from the project, Bob and his wife, Susan, along with their two children, reside in Chillicothe, and he is a member of St. Peters Church. In his spare time he enjoys spending time with his family and playing with his two-year-old granddaughter.

Who We Are...

As part of the Portsmouth Joint Venture, Dragados USA is working alongside Beaver Excavating and John R. Jurgensen to build the Southern Ohio Veterans Memorial Highway.

DRAGADOS USA

A wholly owned subsidiary of Dragados, Dragados USA, Inc. was established in 2005 and opened an office in Miami, Florida in early 2006. By mid-2006 the company was awarded contracts in New York. As the company steadily grew and expanded throughout the U.S., additional offices were created, and by 2010 Dragados Group of Companies in the U.S. had more than 1,300 employees.

In addition to the SOVMH, the company has other projects under way, including a portion of the design-build component for the high speed rail in California, SH-181 Harbor Bridge Replacement and the SH-288 Toll Lanes in Texas.

Growing steadily since the company was founded, Dragados USA's team has completed other major projects across the U.S. Included in this were the Manhattan Tunnels Excavation and East Side Access Caverns in New York City, I-595 Corridor Roadway Improvements, and the Miami International Airport North Terminal Improvements in South Florida.

PGG's Intern Spotlight

PGG features Intern Matthew Harris, a junior at Minford High School.

While not at school or helping in the various assigned tasks, Matt is a star athlete, and he recently competed in the Division III Regional Cross Country meet, finishing fifth overall.

Minford coach Ann Marie Allen stated, "He gets good grades, and he is an all-around good kid."



We welcome Matt to our offices at the Portsmouth Gateway Group, and we wish him the best in his many academic, athletic and career endeavors!

Big Rigs of the Project

Featuring the Grove GMK 7550

In the construction of 22 structures throughout the Southern Ohio Veterans Memorial Highway corridor, some heavy lifting has taken place with aid from various pieces of equipment.

One such piece that is dominant in bridge construction is the bridge crane, and more specifically is the Grove GMK 7550 pictured at left.

Though the earliest cranes are credited to the Ancient Greeks in the 6th century. While those early mechanisms were powered by people or animals, today's crane and its technology have come a long way since then. The Grove GMK 7550 is a 550-ton capacity, with five section, full power booms measuring from 53 feet to 197 feet. The maximum height measures 207 feet, and when fully extended, the boom counterweight measures up to 120 tons.

Now that's a lot of heavy lifting!



Interchange Construction At A Glance



U.S. 52 Partial Interchange: Bridges 1a, 1b & 2 at U.S. 52 and Ohio River Road



Shumway Hollow Interchange: Bridges 7 & 8 over S.R. 823 and the CSX Railroad



S.R. 140 Partial Interchange: Bridge 3, Ramp A/B over S.R. 140



Lucasville-Minford Interchange: Bridge 11 over Lucasville-Minford Road